IRANI ENGINEERING
PETROLEUM ENGINEER
2625 FAIR OAKS BOULEVARD, SUITE 10
SACRAMENTO, CALIFORNIA 95864
916-482-2847
FAX 916-482-7514

January 5, 2016

Pacific Gas and Electric Company
245 Market Street, Room 1309
San Francisco, CA 94105
Attn: Michael Medeiros
Manager, Renewable Energy Development

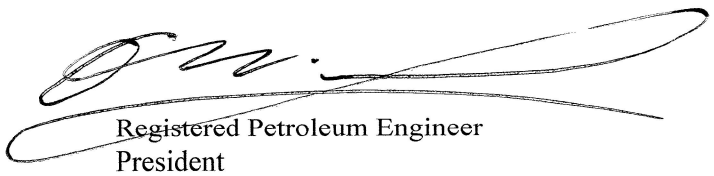
Re: Plugging and Abandonment Report (EPA Form 7520-14) and Well Schematic
PG&E Test Injection/Withdrawal Well 1, King Island, San Joaquin County, California

Dear Mr. Medeiros:

Please find attached the Plugging and Abandonment Report (prepared on EPA Form 7520-14) and post-plugging well schematic for PG&E Test Injection/Withdrawal Well 1. Irani Engineering certifies that the well was plugged in accordance with the EPA approved Plugging and Abandonment Plan prepared by Irani Engineering dated October 22, 2015, and that the attached Plugging and Abandonment Report is accurate.

Please feel free to contact me if you have any questions.

Regards,
Saeed Irani,



Registered Petroleum Engineer
President
Irani Engineering

Enclosures:
Attachment 1: Plugging and Abandonment Report on EPA Form 7520-14
Attachment 2: Post-plugging well schematic

OMB No. 2040-0042 Approval Expires 11/30/2014

United States Environmental Protection Agency
Washington, DC 20460

PLUGGING AND ABANDONMENT PLAN

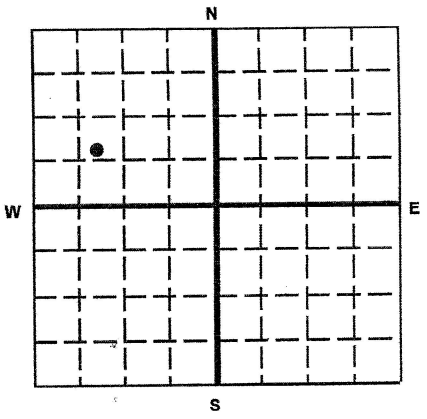
Name and Address of Facility

PG&E King Island Compressed Air Energy Storage Temporary Site Facility
8601 W. Eight Mile Road
Stockton, California 95219

Name and Address of Owner/Operator

Pacific Gas and Electric Company
77 Beale St.
San Francisco, California 94105

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
California	San Joaquin	R9UIC-CA5-FY13-1

Surface Location Description

SW 1/4 of NE 1/4 of SW 1/4 of NW 1/4 of Section 27 Township 3N Range 5E

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 1977 ft. frm (N/S) N Line of quarter section
and 865 ft. from (E/W) W Line of quarter section.

TYPE OF AUTHORIZATION

- [x] Individual Permit
- [ ] Area Permit
- [ ] Rule

Number of Wells 1

Lease Name Piacentine

WELL ACTIVITY

- [ ] CLASS I
- [x] CLASS V
- [ ] CLASS II
  - [ ] Brine Disposal
  - [ ] Enhanced Recovery
  - [ ] Hydrocarbon Storage
- [ ] CLASS III

Well Number PG&E Test Injection/Withdrawal Well 1

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
20"	NA	60'	43'	28"
13-3/8"	54.5	630'	613	17-1/2"
9-5/8"	40.0	4716'	4699'	12-1/4"
5-1/2"	17" Lnr/Screen	200'	200'	17"(Gravel P)

METHOD OF EMPLACEMENT OF CEMENT PLUGS

- [x] The Balance Method
- [ ] The Dump Bailer Method
- [ ] The Two-Plug Method
- [ ] Other

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inche	5-1/2"	9-5/8"	9-5/8"/Anls	9-5/8"			
Depth to Bottom of Tubing or Drill Pipe (ft.	4814'	3942'	984'	310'			
Sacks of Cement To Be Used (each plug)	240	150	250	135			
Slurry Volume To Be Pumped (cu. ft.)	276	173	288	155			
Calculated Top of Plug (ft.)	4026'	3537'	443'	Surface			
Measured Top of Plug (if tagged ft.)	4054'	3570'	445'	Surface			
Slurry Wt. (Lb./Gal.)	15.8	15.8	15.8	15.8			
Type Cement or Other Material (Class III)	Class G	Class G	Class G	Class G			

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
4614'	4814'		

Estimated Cost to Plug Wells

$198,000

Certification

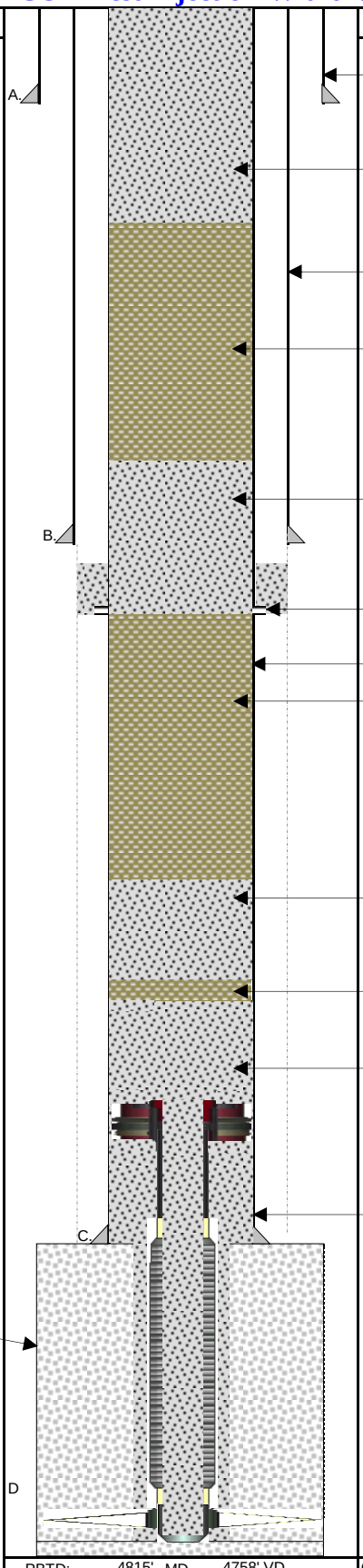
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)	Signature	Date Signed
Saeed Irani, Petroleum Engineer		1-5-2016

EPA Form 7520-14 (Rev. 12-11)

PG&E Test Injection-Withdrawal Well No. 1

COMMENTS



EQUIPMENT DESCRIPTION

20" Casing @ 60' cemented to surface

Cement plug at 310', TOC at surface
(135 sacks of Premium Class G cement
with 3% CaCl2)

13-3/8#, 54.5#, J-55 ST&C @ 630'
cemented to surface

10 ppg mud

Cement plug and squeeze at 984'
TOC at 445', TOC in annulus 798'
(250 sacks of Premium Class G cement
squeezed 58 cubic feet of cement slurry
into formation through perfs at 984')

4 JH perforation at 984' in 9-5/8" casing

9-5/8, 40#, J-55 LT&C

10 ppg mud

Cement plug at 3942', TOC at 3570'
(150 sacks of Premium Class G cement)

10 ppg mud

Cement plug at 4814', TOC at 4054'
(240 sacks of Premium Class G cement
with 0.03 gps SCR-100L retarder)

9-5/8" Casing @ 4,716' MD = 4665' VD
Cemented to surface

11 Bottom of Liner at 4814'MD = 4755' VD

PBTD: 4815' MD 4758' VD

PG&E
WELL COMPLETION DIAGRAM

FIELD	NA		
WELL #	PG&E Test Injection/Withdrawal Well No. 1		
Ground MSL -€	-3.75		
KB	8.25'		
LOCATION	Sec. 27, T 3N, R 5E, MDB&M		

DIRECTIONAL DATA

MAX ANGLE	20	THRU ZONE	4815'
KOP	3490'	HOLE TYPE	Directional
4703			

SURFACE EQUIPMENT

TREE
SWAB CAP SIZE & THRD
TOP TREE FLANGE
TUBING SPOOL FLANGE

TUBING DETAIL

	1st or LS	SS or Btm of Taper
SIZE		
WEIGHT		
GRADE		
DEPTH		
THREAD		
NEW/USED		
COATING		
SCSSV		
Min. I.D.		

	O. D. (in.)	I. D. (in.)	LENGTH (ft)	DESCRIPTION
1.	8.6"	6"	4.56'	Baker SC-1 Packer
2.	7.63"	6.969"	5.99'	7-5/8", 26#.Upper Extension
3.	8.13"	6"	2.12'	Baker Model S Sliding Sleeve
4.	7.63"	6"	1.7'	Baker Seal Bore
5.	7"	6.366"	19.63'	Lower Extension
6.	5.5"	4.892"	38.30'	Blank 5-1/2", 17#, N-80
7.	6"	4.892"	122.18'	51/2" Wire wraped screen
8.	5.5"	3.5"	2.63'	O-ring seal sub
9.	5.5"	N/A	1.9'	shoe
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				

CASING DETAIL

#	SIZE	WGHT	GRADE	THRD	DEPTH
A	20"	53#	NA		0' - 60'
B	13-3/8"	54.5	J-55	LT&C	0' - 630'
C	9-5/8""	40#	J&N	LT&C	0' - 4,716'
D	5-1/2"	17#	N-80	LT&C	4614'-4815'
E	6"	17#	N-80	LT&C	Liner from 4687' to 4814'
F					
G					
H					
I					
J					
K					
L					
M					
N					

Prepared By:	Saeed Irani	Date	December 22, 2015
Updated By:	Saeed Irani	Date	December 22, 2015
		Printed on	January 4, 2016

Completed:

File:

E:\PG&E I-W Abnd\[PG&E Test I-W Well #1 ABND Schematic.xls]Actual WBD